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ENTRANCE EXAMINATIONS.

AN excellent paper in the last number of the "Teacher" by J. T. pointed out the right method of conducting written examinations. The method advocated — that of testing, not the mere memory of facts, but the power acquired by the knowledge of facts — is certainly the only way of getting at the real acquisitions of a scholar and his capacity for higher work. An examination, to be what it pretends to be, must aim at finding out what the scholar *is*, and what he can *do;* so that, if found capable, he may go up higher. The entrance examinations of our schools and colleges have no other object than to decide this question of competency for advanced work. But it is this system of entrance examinations which is in a large degree responsible for the evils deprecated, of superficiality and cram, and for others quite as serious. It is the object of the present paper to point out some of these evils, and to advocate a system of promotion from grammar school to high school, and from the latter to college, like that which prevails within the schools and colleges themselves. Who are the proper authorities, and where is the place to decide the question of a scholar's "ripeness or unripeness"?

Our American colleges, gathering their students from every quarter and from schools of every degree of merit, have fixed the

examination at the time of entering, and at the college ;* and the same custom has been followed since written examinations have come in vogue, in our grammar and high schools, though the necessity for it has been by no means the same. In Germany, on the other hand, the custom has always prevailed of holding the trial examination at the Gymnasium at the time of leaving, and making the promotion to the University dependent not wholly upon it, but also upon the student's general "attainments, conduct, and diligence." So from every class and grade there is a leaving examination and a recommendation to the next higher grade. Those who wish to enter the University or any school must go to the Gymnasium, or the school of the lower grade, and obtain its diploma. Only in the case of the few who come from private instructors, does the result depend upon the examination alone. Let it be understood, also, that the leading examinations for the University consist largely of essays in German and Latin upon subjects drawn from ancient or modern literature.

I propose to show the advantages of such a comprehensive leaving examination over our entrance examinations, or rather of that system in which the scholar receives his permission to enter the higher grade from the school he leaves over one in which all is made to depend upon a single examination at the doors of the higher school.

In the first place, it is obvious that the teachers who have had charge of a boy for a year or more alone know him wholly. They if any know what he is, what he can do, and will do, and how much of himself he will fail to put upon paper. They have seen him put forth his powers naturally and harmoniously, and are not obliged to form their estimate of him from seeing him *spurt*, to use the boating slang, under the pressure of a great excitement. Their judgment of him formed after daily close oral examination is worth much more than that based upon any written examination, however minute.

In the next place, the leaving examination does away with the haste, the crude preparation, and the cram, more or less characteristic of all our entrance examinations, and secures a more healthy

* Yet the fact that in many colleges the *matriculation* is fixed at the end of the first year, shows that formerly it was the *year's work* which was considered as the real examination.

mental development. How crude this preparation often is, how little of real intellectual power it evinces, a cursory survey of a pile of examination papers written for admission to any high school would be pretty sure to afford a melancholy proof. To pass over in the shortest possible time the appointed road, and to catch the magic words that are to open the doors to the stage beyond, tends to become with parent and pupil the supreme end. Boys preparing for college fret with impatience at any requirement which does not take them by the shortest "cut" to college. "Is that required, sir?" is the question which too often meets a teacher's endeavor to build out a broader basis for his pupils. He will be told, perhaps, how A B got into college without this or that, and in what marvellously short time. Your average boy is not ambitious for culture; he wants to get on, and the "coach" that travels fastest is the vehicle for him. But real culture is not to be hurried. All fine growth is slow and quiet; it is the fast-growing tree that snaps in the first storm; the wood that takes the best polish has been a century growing. The air best suited to letters or science is still and free from excitement. The perpetual stimulus of an impending entrance examination is unhealthy, and brings tumult into minds which most of all need quiet. Whatever, then, will curb and steady the hurry and fret of youth, and impart a calmer tone to their minds, is to be welcomed. But these examinations, made as they are the sole test of "ripeness or unripeness," tend all the other way. The candidate for one, for years even before he reaches it, builds all his hope and ambition upon his success in it, and views knowledge only in its relation to it. The wise builders of the Prussian school system, of whom William Von Humboldt was chief, took good care to banish haste and excitement from education by not making the mere passing of an examination everything, putting emphasis rather upon the training which precedes it. "So well do they know how insufficient an instrument for their object — that of promoting the national culture and filling the professions with fit men— is the bare examination test; so adverse are they to cram; so clearly do they perceive that what forms a youth, and what he should in all ways be induced to acquire, is the orderly development of his faculties under good and trained teaching.

"With this view, all the instructions for the examinations are

drawn up. It is to tempt candidates to no special preparation and effort, but to be such as a scholar of fair ability and proper diligence may at the end of his school course come to with a quiet mind, and without a painful preparatory effort, tending to relaxation and torpor as soon as the effort is over.' The total cultivation of the candidate is the great matter, and this is why the two years of *prima* are prescribed: 'that the instruction in this highest class may not degenerate into a preparation for the examination, that the pupil may have the requisite time to come steadily and without overhurrying to the fulness of the measure of his powers and character, that he may be securely and thoroughly formed, instead of being bewildered and oppressed by a mass of information hastily heaped together.' All *tumultuous preparation* and all stimulation of vanity and emulation is to be discouraged, and the examination, like the school, is to regard the substantial and enduring.* Accordingly, the composition and the passages for translation are great matters in German examinations, not those papers of questions by which the examiner is so led to show his want of sense, and the examinee his stores of cram.

"That a boy shall have been for a certain number of years under good training is what, in Prussia, the State wants to secure; and it uses the examination test to help it to secure this. We leave his training to take its chance, and we put the examination test to a use for which it is quite inadequate, to try and make up for our neglect." — *Matthew Arnold's Higher Schools and Universities in Germany.*

Moreover, the system advocated allows the teacher to set before himself a higher standard than that of getting his pupils *through*. To a teacher who is preparing a class for an outside examination, upon which his own reputation, as well as their fortune, is staked, the temptation is constantly presented to make that his standard, and to aim no higher. Nay, he will probably be greatly blamed if he does not. Education, under such a temptation, is apt to dwindle into mere drill, and its high meaning to be forgotten. Insensibly the teacher becomes a mere bond-slave to an outside master; the things of the spirit lose their interest, and the let-

* *Perverse studet qui examinibus studet*, was a favorite saying of Wolf's.

ter — mere verbal scholarship — carries the day. Why spend time upon niceties of translation, upon the logical development of one of Cicero's orations, upon the discussion of points in history, upon the characters of the actors and writers of antiquity, since none of these things will tell at the college examination? The school library may be full of the most valuable works of reference, but the teacher who has learned that it is necessary for his own interest to get his boys "in clear," will think he can hardly spare the time to make his boys acquainted with Plutarch's pages, or such books as Becker's Gallus and Charicles, Wordsworth's Greece, Mommsen's and Grote's Histories, or even with Smith's Dictionaries. It is true that from such works, and by treating the Latin and Greek text-book more as literature and less as a parsing book, more of the life and spirit of antiquity, and all that goes to make *character*, can be gained; but these things cannot so well be put upon paper by ordinary methods of examination, and are not what the boy is to be examined upon at college. In short, all studies, more especially those which deal with man, whether language or literature or history or geography, are narrowed and degraded, and lose half their value as instruments of culture, when taught by a teacher who looks to an outside examination by question and answer, to test the result of his teaching. Lastly, these great critical examinations are helping to banish the love of reading from the coming generation. Mr. Emerson is reported as lamenting that even the best college men nowadays read comparatively little, by no means as much as they did in his day. The Harvard College reading-room, furnishing newspapers and periodicals, is but just supported. There are, perhaps, several reasons for this decline of the love of reading; but one important one, I believe, is this, that the best intellectual life in our colleges is absorbed in the preparation for examinations, and in the keen competition for honors. In a less degree, but still noticeably, is the same influence felt in our high schools and even grammar schools. "I call that a good teacher who gets his pupils to read," said a wise lady to the writer. But, judged by this standard, there are few good schools. The voluntary reading of worthy books is becoming lamentably rare, and most of all where the stimulus of an impending examination is most felt. In the classical department of our high schools, the reading of standard English

literature as a part of a regular course of study is generally neglected, while boys who have begun to scent the college examination are almost universally considered exempt from such waste of time, whether in school or out. Harvard College has, indeed, to its credit, placed among its new requisites for admission, English composition, "the subject to be taken from such works of standard authors as shall be announced from time to time." But unless something more than mere correctness "in spelling, punctuation, grammar, and expression" is desired, not much will be gained in real knowledge of any work or its author. "If that is all that is wanted," said a boy who had brought to me a very thoughtful and well-studied paper, "I won't try to read upon the next subject."

Yet, while any knowledge of English authors and their works has been almost entirely excluded from the course of study preparatory for college by the pressure of the admission examination, this study has been greatly gaining ground of late in the English department of our High Schools, simply from the general belief on the part of the educated community and the most enlightened teachers that it is a valuable means of culture. Is it any less so for boys preparing for college, or does any college course supply the deficiency? Is it too much to say that it is possible for a young man to prepare for and go through most of the colleges in our land without ever having read a page of Shakespeare, Milton, Pope, Goldsmith, Cowper, Wordsworth, or Scott, or knowing anything about their relation to literature, and that this ignorance is almost literally true of some of the first scholars of every class? Such studies are thought rather too simple for a college course, and in the high school there is no time for them. Yet, who does not believe that, were it not for the narrowing effect of the college examination, the same influences that have secured for English literature an honorable place in the English department of our high schools would have secured for it the same place in the classical?

I have spoken more at length of the narrowing influence of the college examinations upon the high school, simply because I believe it to be more pernicious than at earlier stages, since a larger and higher culture is then possible. But upon the grammar school, the entrance examination to the high school acts

with a like hurtful influence. Just so far as that examination is made the standard, exercises which do not directly help to success in it will be neglected. Reading, both as an elocutionary exercise, and as a means of awakening thought, oral lessons upon familiar objects, the little of everything that a child should be helped to see every day that he may become an observer, all things, in short, that cannot be reduced to the exact measure of the high school examination, get but half the attention they deserve, or none at all.

And yet it is as true as that "the life is more than meat," that education is more than mere knowledge, and that culture is the true end, which no common examination can gauge. But these epoch-making examinations in the life of a youth emphasize the former, as they of necessity must, since what is examined must be something that can be accurately measured and marked for comparison. They foster the notion that the object of a course of education is to get as large a load as possible of facts which is to be *dumped* at certain places and times, and keep the mind of the young constantly directed forward, instead of occupied with the present.

Let me not be thought to deprecate written examinations. They are a useful and almost indispensable adjunct in teaching, and should be often substituted for the daily oral examination. Framed so as to test the comprehension of principles, sometimes in the form of questions, sometimes of topics, and sometimes of translation, they are an invaluable instrument in training to accurate knowing and clear thinking. We do not need Lord Bacon to tell us that "writing maketh an exact man." If entrance examinations are to be held at all, by all means let them be largely in writing. The objections which have been presented are not to the form, but to the use made of them.

And now let me answer more particularly the question which my readers, if any have followed me so far, have, perhaps, been asking, — How shall we test the fitness of scholars to enter the high school or college?

As to the high school, the answer is ready. Admit all who have merited promotion by their daily work, and their success weekly or monthly examinations, held by each teacher in his own class, and who bring from their school a diploma to this

effect. If desired, the diplomas might be of two grades, one admitting to the high school, the other certifying to a completion of the grammar school course. The system of admission upon diplomas has already been adopted in Boston, and very likely in other places. Can any one name any good reason why it should not be adopted everywhere?

For admission to college, some other plan must evidently be devised, since schools in different places and in widely different circumstances would soon have widely dissimilar standards of fitness for college. The colleges have heretofore set the standard. Let them still do so, for no other authority can do it so well. Only let them set the standard of a really broad education, including the elements of all the great branches of knowledge. This will no longer be found so difficult, when the memory has not to struggle under the burden of a mass of details carried for a distant examination. Let them prescribe text-books, the amount to be read, and the method of teaching, as far as possible. Instead, however, of examining the young men as they come from the schools, as heretofore, let them examine the schools themselves, either by members of their own faculty, or through other agents whom they can trust. By all means let the schools be under careful supervision, and let the examination of the school, that is, of its methods of teaching and the quality of instruction, be thorough. Let the standing of each school be known to the proper authorities, and to the teachers themselves. If found satisfactory, let its graduates have admission without further examination to the various colleges which have accepted it. If found wanting in any important respect, let conditions, more or less severe as the case may warrant, be annexed to the entrance of its graduates. Revive too, if you please, for further security, the old custom of matriculation after six months or a year, that each school may take good care not to send up young men unripe for college studies. Such a connection between school and college would, of course, be entirely voluntary, brought about through the agency of the committee or trustees of any school wishing to send young men to any particular college. It would be necessary, probably, still to retain some examinations for those who might come from private instructors, or from places too distant to send examiners, or from schools not approved; but the number of such would become smaller each year.

Were such a system as is here outlined * adopted generally by our leading colleges, it would do more, I am confident, to improve pre-collegiate education in our country than anything that has been done in the last twenty-five years. The schools would be brought into a vital connection with the colleges, from which they could not fail to reap great benefit. But more than all, the evils of preparation for a great critical examination, narrowing and degrading in its influences upon teacher and pupil alike, would be removed. The way would be cleared for a plan of education broader and higher than any hitherto in use, — a plan which should simply regard "the substantial and enduring, and aim to secure for every child" the "orderly development of his faculties, under good and trained teaching."

L. R. W.

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* Since this article was written, a communication has appeared in "The Nation," in which the writer calls the attention of its readers to the fact that a system like this has been for the last five years in successful operation under the authority of the University of Michigan, an institution which has more than once led the way to useful reforms in education. The following announcement is now annually published in the University Calendar: —

"SPECIAL NOTICE TO PREPARATORY SCHOOLS."

"A committee of the Faculty will visit, once every year, any public high school in Michigan, on request of its school board, and report its condition to the Faculty.

"If the Faculty shall be satisfied from such report that the preparatory courses of study in the school thus visited embrace all the subjects required for admission to the University, and are taught by competent instructors, then the graduates from such preparatory course will be admitted to the Freshman Class of the University without examination.

"They must present to the president, within three months after their graduation, the diplomas of their School Board, certifying that they have sustained their examinations in *all* the studies prescribed for admission to one of the three courses, classical, scientific, and engineering, or Latin and scientific. They will also be required to appear at once in their classes, otherwise they can be admitted only after examination.

"The privilege of admission on diploma is limited to public schools in Michigan, and their school boards must make the application annually."

SCHOOL SCIENTIFIC SOCIETIES.

THE credit of having originated the meeting in different localities, at stated periods, of scientific societies belongs to Switzerland. The Helvetia Society of Natural Sciences has found imitators throughout the civilized world; the American Association for the Advancement of Science being the most prominent society of that type in this country. Physicians, philanthropists, agriculturists, architects, and others, have likewise annual meetings in various parts of the country, with marked advantages. But we only mention these to introduce to notice a much more modest association founded some years ago in a part of the same small republic of Switzerland, and which, we think, well worthy of imitation in our country.

In 1865 a society was formed in the small canton of Neuchatel, the former home of Agassiz and Guyot, by the name of *Club Jurassien*, so named from the Jura mountains, in which this canton is located. The object of the club or association is, according to the first article of its statutes, to "develop among the young the taste for natural sciences, and to study, in a special manner, and under all its faces, the nature of the Jura." To this effect the society organizes frequent walks and excursions, during which the members study the rocks, the fauna, and flora of the Jura, its historical and archæological monuments, make collections, which, placed in the schools of the different localities, may become the nucleus of school museums for instruction. The society designs also to acclimatize useful or interesting animals and plants. It will also cover the country with a net-work of accurate observations on the periodical phenomena of nature, so as to obtain ultimately accurate data on the supply of water of our country and on the calendar of its fauna and flora. By a monthly publication, it gives the results of its activity and the most interesting communications of its members.

Any person taking an interest in the objects of the society may become a member; likewise all the young people attending school. Sections are organized in the different towns and villages, electing their own members and officers, having their own meetings, etc. An annual meeting of all the sections is held in

some locality presenting, if possible, some interesting peculiarities. At the general meetings a central committee is elected, the members of which are chosen each year from a different neighborhood, but so that they may readily come together in quarterly meetings. Further details of organization we may leave out for the present.

The society is in a very flourishing condition, and has spread itself over the neighboring cantons of Vaud and Geneva. Its annual meetings are generally held in the open air, on mountain tops, or in green valleys, each section bringing its banner, each member decorated with the simple badge of the club, — a spruce twig in the button-hole ; simple provisions are brought picnic fashion, and hospitable neighbors are always found ready with fresh milk, home-made bread, butter, and honey. Here the annual report of the central committee is read, communications are made by the members, and last, but not least, friendly relations are opened between members from different parts of the country, proposals for exchanges of collections made, general places of research discussed, etc.

The publication of the society is a small but tastefully prepared lithographic sheet, illustrated as a labor of love by artists of considerable merit, and costs about fifty cents a year. We have only a few numbers before us now, but from them, and from recollections, we shall try to give some idea of the subjects treated. We find, for instance, descriptions of rare animals and plants and the localities where they are found, accounts of their habits or mode of growth ; in one locality the boys report a complete census of the birds' nests within the limits of their villages, — a singular occupation for them apparently, but which, repeated in different years, will give us accurate data for the relation between the increase or decrease of small birds and the ravages of insects ; then we find descriptions of remarkable caverns, in which prehistoric man had his dwelling, and has left the ashes of his hearth, the bones of the animals on which he fed, and the rude stone implements with which he killed his prey. Others again have described remarkable erratic bowlders, and, when they presented peculiar points of interest, have procured for them the benefit of a legislative enactment protecting them against destruction by the quarryman. Observations on the annual rain-fall, on the drain-

age of every river basin, are recorded in another number. Trees, remarkable for their size, are noted. New localities of rare plants or insects are recorded, or lists of plants peculiar to certain soils made out; as, for instance, all the plants growing on a peat bog, or on a limestone hill, or on a granitic moraine, etc. Some of the boys have interviewed all the sportsmen of their villages, and obtained from them the numbers and kind of game annually shot. Had we the full files of the "Rameau de Sapin," we might extend this list much further, but this will suffice.

Now, will not some one of our high schools set the stone rolling by forming the first section of a similar society? It is sure to find imitators, and to spread over our State first, and, ultimately, over our whole country, the thorough knowledge of which is next in importance and second only to the knowledge of ourselves. When, in after years, the "oldest inhabitant" is consulted about changes of climate, drying-up of springs and rivers, etc., he will no longer trust to his memory, biased with the universal propensity of glorifying the past at the expense of the present, but he will refer you to the published records of his and his schoolmates' observations, and enable you to compare them with those of his grandchildren.

We leave the subject in the hands of those best able to give it a good impulse —the school-teachers: let them co-operate with those among their pupils whom they think most likely to take a lead in the matter; organize meetings at stated periods; open correspondence with neighboring clubs; in the proper season have field meetings and excursions; further organization will develop itself as wanted.

A few subjects of inquiry adapted to this part of the country may not be out of place. With regard to the animal kingdom, the increase or decrease of useful or noxious animals ought to be noted; the appearance of rare animals; the dates of arrival and departure of migratory birds; the dates of appearance of insects; the spreading of new noxious insects (potato-bug for instance), and observations on their enemies; the dates of appearance of migratory fishes; notes on the increase or decrease of fishes in connection with fish breeding (great assistance could be given to our fishery commissions by the great accumulation of very simple observations carried on in every locality of the country). Col-

lections of noxious insects could be made at very little expense, and kept in every school. In the vegetable kingdom, the date of foliation and flowering gives valuable climatic indication ; and the few large trees remaining ought to be measured and recorded, and means taken for their preservation; and, if the single point of impressing on the rising generation the immense importance of the preservation and replanting of forests could be attained through the instrumentality of such a society, it would gladden many a far-seeing lover of his country, who can see it slowly but surely falling, under the present system of devastation, to the barren state of Greece and Spain. Poisonous plants could be collected, pressed, and framed in the school-houses, so that every child should know them, and thus the chances of fatal mistakes be diminished. Useful plants would become better known, as for instance the edible fungi, almost entirely unused in this country. In the mineral kingdom, school collections could be made with very little trouble, and increased by exchange between different localities. In New England we want more observations of the direction of the glacial scratches, of the origin and distance travelled by bowlders. Such would be too laborious for one man, but very easy for a small army of youthful observers. In climatology and meteorology, — sciences which can deduce their results only from numerous and long-continued series of observations, — the field is immense, and a great many of the observations can be made without instruments, or with simply a thermometer : such as dates of freezing and opening of lakes, ponds, and rivers ; snow-falls ; temperature, abundance, or drying-up of springs ; first and last frosts, etc. Time and space will not allow us to extend this list, which is intended as a mere outline.

In conclusion, we would call attention to the projected new geological survey of Massachusetts, which will embrace most of the subjects mentioned above. The help it could receive from a school association such as the one proposed would be invaluable.

L. F. Pourtalès.

HIGH SCHOOLS MUST HAVE LABORATORIES.

For several years past an increasing disposition has been manifested by educational reformers to eliminate text-book instruction from many departments of study. The teacher, it has been said, should be himself the living text-book from whom the pupils may not only draw their inspiration but derive their knowledge. Foremost among these reformers, especially during the later years of his life, was Agassiz. In natural history, and indeed in all the natural sciences, this tendency has certainly proved a healthful one, though we are inclined to believe that some of the most ardent promoters of it have fallen into the usual errors of reformers. They seem to have forgotten that nomenclature and classification form a part of the study of the natural sciences, and that the latter of these is the most important factor of mental discipline which they furnish. They seem to have forgotten, too, that nine tenths of the knowledge which men acquire, beyond the narrow limits of their own experience and investigation, as well as an equally large proportion of what they communicate to others within these limits, is conveyed through the medium of conversation, lectures, periodicals, and books; and that therefore it is of some importance that good models of composition in every department of study should become familiar to the pupil, that he may learn to speak and write, as well as to observe and think, in reference to the objects and phenomena brought to his notice. Now no better means has yet been devised than a good text-book, rightly used, for the acquisition of facility and correctness in speaking and writing about the subjects studied. Those who substitute the lecture for it, requiring the pupils to record and subsequently to commit to memory the substance of their remarks, merely substitute their own phraseology for that of another, and therefore use a text-book differing from the printed one only in requiring a greater expenditure of time and patience in the mastery of its contents. If what they say is worth memorizing at all, it is worth printing, in order that the work of memorizing may be facilitated. Those on the other hand, who, infatuated with the notion that blackboard instruction is the one universal method of teaching, substitute their own crude extem-

pore remarks for the carefully considered phraseology of a good text-book, and their own rough crayon sketches for the finished work of the artist and engraver, waste valuable time, and produce, at the best, only a clumsy imitation of the text-book they deride. Text-books are, it is true, insufficient in themselves. Their concise phraseology, admirably adapted for private study, must be expanded in the class-room; their illustrative cuts must be rendered more effectively illustrative by actual experiment; both phraseology and illustrations must be improved and corrected to meet the demands of increasing knowledge; but text-books must not be suffered to fall into disuse. The efforts of reformers should be directed, not to their elimination from any department of instruction, but rather to their improvement by the authors and their right use by instructors. They need to be supplemented, not supplanted, by observation and experiment. The pupil should not be required to go alone to nature, but should have the constant companionship of a competent and reliable guide.

But it is not our purpose wholly to condemn the tendency above criticised. On the contrary, the results of this tendency must be acknowledged to have been thus far salutary. Many school-books are undoubtedly imperfect, and those which are themselves excellent have been shockingly misused. Indeed it may be useful for some time longer to spur, rather than to curb, those who are in the front rank of their assailants. Accordingly, it is our intention here, while not ignoring the dangers of a too radical reform, to urge the extension of that to which the reformers have already, in no small degree, contributed, — we mean the constant association of experiment with text-book instruction.

The necessity of combining with the enunciation of scientific principles, the experimental demonstration of them, has long been recognized, and so far as the limited means placed at the disposal of school and college authorities have permitted, this twofold presentation has been generally employed. It is not, however, until within a comparatively recent period that the best method of effecting this combination has been introduced; and we are indebted, without doubt, for its introduction to the numerous graduates of our colleges, who, having studied in European universities, have brought back with them the method there

established. Until within a few years, the professors of the natural sciences in our colleges have given their instruction in the form of lectures, presenting orally to the students the general principles and laws of each science, and themselves performing such experiments as were needed to make them understood. This mode of instruction, excellently adapted as it is to meet the needs of a popular audience, is quite insufficient both for those who are themselves to become the instructors of others, and for those who, in the different departments of scientific investigation, will be called upon to perform original work. The student trained under this mode of instruction gains little more, in addition to that which the text of the lecture supplies, than ocular evidence of the truth of the principle illustrated. He is as unprepared after, as before, the experiment to exhibit to others what has been exhibited to himself. The nice adjustment of the apparatus, the state of the atmosphere as to moisture, temperature, etc., and the many other conditions which determine the success or failure of every delicate experiment, are, even if explained by the professor, scarcely appreciated by the student, and he comes forth from such training totally unqualified for the prosecution of original research. We are at last beginning to recognize the fact that scientific lectures must be supplemented, not simply by cabinets of specimens and cases of apparatus provided for the use of the instructor, but by laboratories arranged for individual work, to be performed, under competent guidance, by the student. The wealthier colleges and scientific schools are accordingly constructing laboratories, not only for the work of experts in chemical analysis, but for purposes of general instruction in all the sciences whose principles admit of experimental verification.

The present generation of teachers, however, have been educated under the old régime. On leaving the colleges and normal schools they were placed at once in the high schools and academies of the smaller towns, and, with but a limited amount of nearly worthless apparatus at command, have been required to give instruction in the natural sciences. Destitute of the proper appliances, and prevented from acquiring skill in the use of such as they have by the steadily increasing attention which the colleges have forced them to give to their classes in mathematics

and the languages, what wonder if their instruction has been imperfect! It would hardly be an exaggeration to say that two thirds of the teachers in the high schools and academies of this State, in towns of less than twenty thousand inhabitants, if placed in a mineralogical, geological, chemical, or physical laboratory, surrounded by the improved appliances for investigation in these departments, would find themselves incompetent to work without guidance. This is probably no fault of theirs. It is their misfortune to have come into service at the beginning of a transition period in methods of instruction.

It was probably in consequence of a recognition of this incompetence on the part of the average teachers in high schools, that the authorities of Harvard College at Cambridge, and Prof. Agassiz at Penikese, instituted, last year, summer courses of instruction in the leading departments of natural science. Announcements of these courses were published in the leading newspapers of New England and New York, and circulars were sent to the principals of all the high schools and academies from which the college has at any time received students. A similar announcement, and one to which those just mentioned were probably intended as a preliminary, was subsequently made by the faculty in the new requisites for admission; according to which those who present themselves for examination in Botany "will be required to give evidence that they can analyze simple specimens; and those who offer Physics or Chemistry, that they can *perform simple experiments.* Harvard has been, so far as we know, the first and only college to move in this direction; and the number of applications hitherto received for admission to these summer courses has scarcely been sufficient to warrant their introduction at other colleges. It is perhaps too much to ask that teachers, exhausted by the labors of the school year, should sacrifice their summer vacation to the study of chemical reactions and botanical analysis. If they could be induced to do this, however, for one or two seasons, they would assuredly become so dissatisfied with the defective appliances with which they and their pupils are compelled to work at home, that a thorough change in the present method of teaching the natural sciences would speedily ensue.

Every high school, then, and every academy must have a labo-

ratory, generously supplied with all the appliances necessary for individual work, before we can reasonably expect to see anything like a general improvement in the methods of scientific instruction. The additions to school furniture which such an innovation contemplates, will, it is true, be expensive; but even from a money standard the increased expense would soon be counterbalanced by a corresponding improvement in the various branches of industrial art. In view, however, of the reluctance of communities and school boards to incur undue expense for educational purposes, it is hardly to be expected that they will take the initiative in such a reform; but much may be done by individual teachers, if they will only take the matter in hand. Experience has shown indeed that those teachers whose interest in their work makes them willing to sacrifice time and money in order to avail themselves of such opportunities as those afforded in the summer courses at Harvard, acquire a wonderful influence with the more intelligent members of school boards, and that they therefore, more than any other members of the community, are likely to succeed in obtaining appropriations for such purposes. At any rate, such appropriations we must have, whoever be the movers, for by them alone can our schools be brought into harmony with the scientific tendencies of the age. J. T.

NOTE. — The following facts kindly furnished by Prof. C. E. Munroe and Dr. G. L. Goodale, under whose direction the summer courses in chemistry and botany are placed, will be of interest to the readers of the "Teacher," as serving to show the extent to which these opportunities have been utilized.

Physics. The circulars and advertisements above mentioned announced that instruction would be given in physics; but, as only three applications were made last year and none this, no class has been organized in that department.

Chemistry. During the summer of 1873 there were fifteen students in chemistry (twelve gentlemen and three ladies). Of this number thirteen were teachers, one a druggist, and one a medical student. Of the teachers, seven were from Massachusetts, and six from other States; Maine, New Hampshire, Illinois, Ohio, Wisconsin and Rhode Island each furnishing one. During the summer just closed there were sixteen students (thirteen gentlemen and three ladies). Of these, nine were teachers, eight being from Massachusetts and one from the Province of Ontario, Canada.

Botany. In botany there were last year sixteen students (ten ladies and six gentlemen), Massachusetts furnishing half of the entire number. Eight of the sixteen were teachers. This year the number of students was eighteen (four gentlemen and fourteen ladies). Of these, twelve were, or had been, teachers. Singularly enough, the applicants of the first year were all beginners, while, with but two exceptions, those of the present year were advanced students. Almost all the latter, moreover, were able to read German with facility, so that the foreign works in the botanical library could be consulted with advantage.

VERMONT DEPARTMENT.

H. T. FULLER, EDITOR.

ABRIDGMENT OF ELEMENTARY WORK IN LATIN AND GREEK.

WE have been interested in every new proposition for reducing to a minimum the time required for the introduction of students to ancient classical authors. There is no need of a prophet's eye to discern the increasing demand for opportunity to gain a knowledge of the aims and methods of scientific investigation. The air, the earth, the ocean are full of wonders and of practical lessons. The young must have time for these, and more time than has generally been allowed in the courses of study. Moreover, a considerable part of the elementary work in natural science must be done in the preparatory school, if it is done at all.

Some of our colleges, and of high grade, too, make no place for botany; and geology is often taught without the almost indispensable prerequisite of natural history. If the college curriculum cannot find room for some of these branches of study, at what other point in the earlier course of education can they be interpolated, and how shall we find room for them in the already crowded courses of study in our high schools and academies? The question is being practically answered in two ways. *First*, By the plan proposed by F. H. K., in which, after twelve to fifteen lessons in Latin or Greek grammar, the pupil is pushed forward to the classic authors, and such grammar work as is needful is taken up afterwards in connection with the reading. Now, with an older class of pupils, like those in normal schools, who have a good knowledge of English, and have already begun to reason upon the philosophy of language, this method may prove feasible. These scholars will learn language somewhat as a well-trained linguist approaches a strange tongue, — with little or no help from any grammatical classification. Exceptional forms and idiomatic usages will be almost instinctively understood, or, if not that, grasped and mastered with but slight aid from the teacher. But with ordinary pupils, as they come from district and grammar schools, and begin Latin at the age of thirteen and fourteen, the plan proposed by F. H. K. in the later numbers of

the "Teacher" is neither wise nor practicable. In the first place, such learners cannot perform, in the time he assigns, half the tasks he imposes. There is not one boy in ten, of fourteen or sixteen years, who can write correctly both the capitals and small letters of the Greek alphabet after three hours' study, to say nothing of the pronunciation.

A similar assertion may be made of the lesson proposed for declension and comparison of adjectives, and indeed of most of the others. If a teacher can give the whole three hours to such a class of pupils, testing their progress during the time of study, and pointing out the ways of classifying and remembering variations in form, then the time requisite for the preparation of a lesson may be greatly abridged; but only at one or two preparatory schools in the country have teachers so much time at their command, even for a single class each day. The next best thing, doubtless, is to take a little time at the close of each recitation to explain the best method of preparing the succeeding exercise; and this is practicable. But even with this, so long lessons as those made by Mr. K. will not be so thoroughly learned as to be fixed for any length of time in the mind of the student. *Secondly*, We are sure that such an allopathic dose of grammar as Mr. K. prescribes to be taken before any reading, is not either the most economical or rapid way of acquiring Latin or Greek, provided that the committal could be made in the time allotted. The vision of the whole would be dim. It is like asking a man to glance once at a forest, and then enumerate all the different kind of trees that grow there. *Learn only what is absolutely needful* is Mr. K.'s rule, and a good one so far, but we would supplement it by adding: *apply every grammatical principle if possible, before learning a new one.* We have tried the substance of Mr. K.'s method; we began Latin ourselves, indeed, in just that way; we began the study of Greek on the plan adopted by the modern lessons, like Leighton with Goodwin's grammar; we, moreover, have endeavored in ten years' teaching to test every reasonable method of which we heard or which we could devise, and our conclusion is, while his plan might *possibly* be adapted to his own pupils, it is not suitable for the majority of students beginning the study of these ancient tongues. The dose will nauseate or appal any but the most vigorous and determined. F.

[To be continued.]

EDITORIAL NOTES.

SINCE the assembling of the Legislature at Montpelier, there has been broached, and considerably, though quietly discussed, a project

for a new educational régime. The chief intent seems to be to remove the present Board of Education; and the motive is almost wholly revenge for the recent change in text-books for the public schools of the State. What plan of supervision is to be substituted in place of the present Board, we are not informed. We doubt if any plan at all has been well digested. Some prominent teachers have been consulted in regard to the project, and we are glad to know that it is quite universally condemned.

Please, gentlemen law-makers, move very slowly in any such radical reform It is much easier to break a tool than to make one. It would be very difficult to find a system of educational direction better for the people of this State than that now existing. Grant that the Board of Education have made some mistakes, we do not believe they have intended anything but to secure the best interest and advantage of the youth of our State, and we know that they have been unjustly maligned, especially by certain adverse publishing houses.

Cannot something be done by the teachers in their State and county associations, towards the securing of a greater uniformity in the use of text-books in our high schools and academies? Many a teacher tries a book and finds it quite unsuited to his need or that of his pupils, or he is in doubt between the two or more books offered on the subject required. To such a one, another instructor's experience would be of incalculable service in assisting to a wise choice. Moreover, such public and fearless discussion of the merits of a text-book would have a wholesome influence on agents, publishers, and authors. It would raise the standard of judgment, and better books would be issued. There are some branches of study upon which a good text-book can hardly be found. This is notably the case in respect to English grammar. We note that most of the common schools in this State are using "Greene's Grammar." Unless the teachers are very careful to combine a great deal of oral exercise and illustration with the use of that text-book, the study of our mother-tongue will become simply hateful to the great majority who attempt it. If "Greene's Introduction" only were allowed to be used in district and grammar schools, we should be more hopeful of success in teaching that branch. After all, grammar and reading should be taught together. A beginning should be made early, and no text-book at all be given to the pupil till the later stage of progress.

INTELLIGENCE.

REV. J. C. W. COXE, formerly principal of the Methodist Conference Seminary, at Montpelier, and also one of the editors of this department of the "Teacher," has accepted a call to the Division Street Methodist Episcopal Church at Burlington, Iowa.

MISS ANNIE F. BREED, of the last class at the Salem (Wis.) Normal School, is teacher of mathematics in Montebello Seminary, at Newbury.

WEST Brattleboro' Academy, occupying the buildings in which Glenwood Seminary was formerly located, is this year under charge of Mr. V. F. Lang, a graduate of Dartmouth College.

WEST TOWNSHEND. Leland and Gray Seminary has a new principal in the person of Prof. H. C. Robbins, who, during the past few years, has been teaching at the West, where he is well known as a popular and efficient instructor.

JOHNSON. The annual meeting of the alumni of the Normal School will be held November 6. Edward Conant, principal of the Randolph Normal School, will deliver an address upon the occasion.

AT the examination of competitors for the nomination to a West Point cadetship from the Second Congressional District, Mr. Frank S. Harlow, a last year's graduate of the Springfield High School, was the successful candidate.

PEACHAM Academy, the educational cradle of Hon. Thaddeus Stevens, Oliver Johnson, and others of no slight fame in political and literary circles, has one hundred and twenty students, and its corps of teachers, headed by Mr. C. A. Bunker, is doing work worthy of the continuance of the ancestral fame of the school. We visited the region last week, and amid the glories of a wide-spreading landscape, quite envied the students who gather there their opportunities for scenic culture.

LUDLOW Academy has a goodly list of one hundred and sixty-three scholars, the largest in its history.

BOOKS.

"HARKNESS' LATIN GRAMMAR." Published by D. Appleton & Co.

An edition of this work has recently appeared, in which parts First and Second have been rewritten and revised. The principal changes concern the introduction of a plan for the Roman, or Romaic pronunciation of Latin, and the adoption of the new theories with respect to the formation of the stems of nouns, adjectives, and verbs. Prof. Harkness, however, has not gone quite as far as Messrs. Allen and Greenough, since he declines to

regard the vowel following *v* or *u* in the perfect system as a part of the stem. In this difference we incline to agree with Prof. H. The other grammar (of A and G) is not consistent with itself in the treatment of verbs.

Like all the publications of Messrs. Appleton, the typography is excellent, and the general appearance of the volume inviting.

"FRANKLIN SIXTH READER AND SPEAKER," by Geo. S. Hillard and Homer B. Sprague. Published by Brewer and Tileston.

A more attractive volume for the purpose designed has rarely found its way to our table. The publishers have done their work in good taste, and the selections are mostly fresh, and chosen with evident reference to the needs of pupils in high schools and academies. In the introductory treatise on elocution, by Principal Sprague, we are glad to see that the subject of action, and especially gesture, receives so full, and, as far as we can judge by a hasty perusal, so thorough treatment.

WE take the following from the "Portland Advertiser": —

"What Shall we Attempt in Elementary Schools?" by Mrs. A. C. Martin, is a small pamphlet in which Mrs. Martin, apparently a Massachusetts school-teacher, answers her own question chiefly by pointing out with much justice, what elementary schools (by which she means common schools, and, where there is a graded system, all below High Schools) fail to achieve. The author writes in very sensible condemnation of the practice of lumbering the brains of children with dry, unmeaning details about the thirty-fifth parallel and the one hundredth meridian, or the number and names of rivers in the United States of Colombia. She thinks too much pains is taken to train children to read set pieces with rhetorical effect, and too little attention given to teaching them to read at sight and continuously, prose or verse, in a pleasing and interesting manner. She thinks children's reading-books should not be made up of scraps. She declares that the mass of useless geographical detail, the reiteration of the rules of grammar, the year-in-and-out plodding at arbitrary rules of arithmetic, are a dead drag upon the memory, and nearly if not quite valueless for any purpose of real, vital, beneficial education. Mrs. Martin takes the position that in our common schools — the only schools indeed which the great mass of children ever enter — there is too much hard, mechanical drill, and too little real, positive achievement of knowledge which will be likely to be needed in ordinary life. She believes, with every one else who notices the matter at all, that most schools nowadays are chiefly means to the end of an "examination"; and as, of course, only certain things taught in certain ways can be made to show well at an examination, of course these things and these methods are the proper objects of attention. So long as this state of feeling exists, of course the present style of cramming on the high-pressure principle will keep its popularity. In the millennium, we may hope for better things. [Alfred Mudge & Son, Boston.]

Resident Editor's Department.

We believe it was Mark Twain who described Harvard University as a flourishing institution pleasantly situated in the "Parker House, Boston."

It may not be generally known that the "principal" part of the grammar schools of Boston is located at the same place, once a month, and, if one may judge by appearances, pleasantly located. On the first Tuesday of October, the entertainment was given by the pedagogical Nestor, Joshua Bates, Esq., of the Brimmer School. After a reasonable feast with no flow of "bowl," the feast of reason and the flow of soul were introduced by Mr. Bates, in the remarks given below, in which he indulged in interesting reminiscences of the past, which carried some of the younger teachers back to their swaddling-clothes, and lighted up the countenances of sundry old veterans, who could hardly restrain themselves from following the example of Goldsmith's old soldier that,

> "Wept o'er his wounds, or tales of sorrow done,
> Shouldered his crutch, and showed how fields were won."

The remarks of the presiding officer, who has kindly yielded to our request in writing them out, were followed by many speeches, replete with humor, good feeling, and good sense. The substantial portion of the intellectual feast provided by Mr. Bates, will, it is believed, lose less of its flavor in being served up "cold" than the "side dishes," and we accordingly "coldly furnish forth" our editorial table with the "meats" baked especially for that occasion. It may be well to state that several circumstances combined to render this meeting of more than usual interest. The association has been in the habit of meeting the Superintendent monthly in the City Hall, and discussing matters of educational interest, and then adjourning to Parker's to digest what has been said, and sundry other good things. It has been in existence for years; but this was the first meeting in which the masters of the newly annexed territory were included. This alone swelled the numbers to considerable extent, and added to the interest. Another feature was the presence of the master of the English High School. With the exception of the master of the Girls' Normal, who, previous to his appointment to that position, was already a member of the association, we believe this was the first instance in which the high schools have been represented in the Association.

This we regard as perhaps the most important incident connected with this occasion. It seemed to be necessary to give completeness to the system. The grammar masters have been made the principals of the primary schools of their respective districts, thus connecting those two grades, and

securing a unity of effort which previously did not exist. There is also a similar relation between the grammar and the high schools, and it seems desirable that there should be a mutual understanding between the masters of the two grades. This necessity is now recognized in our State and National associations, and their annual programmes include lectures and discussions of special interest to teachers of every grade, from the primary school to the university. At future meetings of the Association, we hope to see all the high schools of the city represented, and have no doubt it will be an advantage to our schools, and tend to prevent many misunderstandings which often arise from non-intercourse of teachers.

Another circumstance which must not be omitted, was the presence by special invitation of Mr. Philbrick; and his very cordial reception was the best evidence of the estimation in which he is held by those with whom and for whom he has been engaged for some seventeen years. Mr. P. was visibly affected by this kind expression of regard, and responded in a pleasant and fitting manner.

On the whole, it was an occasion long to be remembered by those present, marking an era in the history of the Association, and the point of a new departure which is likely to add much to its interest and usefulness.

We should be glad to repeat all the good things said on this occasion, but must content ourselves with the following interesting remarks of Mr. Bates, the chairman: —

Gentlemen of the Association: It seems quite appropriate that it should happen to be my turn to preside at this meeting, when the pleasant duty devolves on me as chairman, to introduce to this social gathering of the brethren, the masters of Charlestown, Brighton, and West Roxbury. It seems appropriate, as I am one of the oldest masters now in the city service, and, also, as I for some years was master of the Winthrop School in Charlestown, from which portion of our city most of the new members come to-night.

This is probably the last social meeting at which I shall preside; for, before my time comes round again, I shall cease to be of your number. Perhaps, under the peculiar circumstances of the occasion, it will not be considered inappropriate for me to state briefly my connection with the Charlestown schools, the condition of things at that time, and the general character of this Association when, some thirty years ago, I was admitted a member.

In the year 1833, I was elected master of the Winthrop School, Charlestown, at a salary of seven hundred dollars. All the schools were then organized on the double-headed system, — each school having a grammar and writing master. By a law of the Legislature about that time, it became obligatory on each town in this State, reaching a certain population, to establish a school where the languages should be taught. There being no High or Latin School in Charlestown at this time, it was finally decided by the school committee that the master of the Winthrop School should be appointed teacher in the classics, receiving scholars who might wish to pursue the languages, from any district in the town, and that for his services, he should

receive the additional compensation of one hundred dollars a year. This arrangement gave me about fifteen additional pupils from other districts. This order of things continued while I taught in Charlestown.

I look back, gentlemen, with much pleasure to my years of service in Charlestown. Perhaps I can safely say, that I encountered little opposition to my plans and systems of teaching, and generally met with the approbation of committees, parents, and scholars. There are memories and associations connected with those years of the past, which will live fresh and vividly with me while life lasts. I trust I did some good in that place, and that I still live affectionately in the hearts of many beloved pupils. Among the many who went out from under my teaching, to places of trust and usefulness, I call to mind in particular two men whose names and reputation are familiar to all present: Thomas Starr King and Lewis B. Munroe, of whom, if time permitted, I should like to relate some interesting reminiscences.

In the year 1844, Jan. 1st, after ten years' service in Charlestown, I commenced teaching in Boston, as master of the Brimmer School, where I have labored nearly thirty-one years, making almost forty-one years as a teacher, a longer period than is generally allotted to any one in the professional life of teaching; and yet my eyes are not much dimmed, nor my natural powers much abated.

When elected to my present position, I found this Association in existence, consisting of about thirty members, — grammar and writing masters. But where are they now? Some are scattered, many are dead; and I see only one present who was in service at the time I joined the Association. I refer to my esteemed friend and brother, J. A. Stearns.

The Association held monthly meetings, as we do now, — each master, in his turn, entertaining at his own house, or at a hotel. At each meeting some one was appointed to read an essay, or deliver a lecture on some subject connected with education, after which the evening was spent in a social way.

About 1840, the Committee of Boston introduced a system of examination, by which a comparison of schools was instituted, and such statements and statistics of the schools were published, that very soon a most unfortunate state of things took place. The natural ill-feeling often created by injurious criticism and unfair comparison of the schools by committees led teachers to be jealous and envious of their neighbors, and consequently for some time this Association was anything but a band of brothers. In process of time, the Committee abandoned this unjust and unwise system of examinations, and, the principal course of estrangement having been removed, things gradually resumed their former condition; and for some years past, this Association has been harmonious and prosperous.

Gentlemen, may it so continue for years to come. I feel that it is the duty, as well as the privilege, of every Boston master to sustain this Association, and to take part in its proceedings and deliberations. I pity that master who, for reasons best known to himself, absents himself from these pleasant and profitable meetings. They are the life of our profession; and here we gather

in friendly consultation, fresh enthusiasm, and profitable suggestions for the month to come. From whatever else you deprive me, cut me not off from these monthly gatherings; and you will not, while these eyes can see the way and these feet can tread the path to the meetings at the City Hall, and to a seat at the festive board

Gentlemen, — I have already detained you longer than I ought to have done; and, if I have been somewhat free in the use of the personal pronoun, my apology must be, that it is the privilege of age and experience in some degree to boast of the past; and if I have mingled self too much in what I have said, I must claim the same indulgence that is granted to the worn soldier from many a battle-field, who is heard with patience, while he tells the story of his life,

"Shoulders his crutch, and fights his battles o'er."

It now only remains for me to welcome the masters of Charlestown, Brighton, and West Roxbury to the fellowship of this Association. We welcome you, gentlemen, to all the social enjoyments, practical suggestions, and, we trust, profitable information you may receive at these meetings. We welcome you to this table, where the joys, the pleasures, the satisfaction of the teacher's life should be manifested, and where the teacher in his discouragements, troubles, and anxieties should receive sympathy, advice, and a helping hand.

There is strength in union, and there is strength and profit in this Association; and, unless we cling together in fellowship and harmonious action, as a band of teachers, all our efforts in the cause of education will necessarily be discordant, belligerent, and unsatisfactory. Let us then work in harmony. Our profession is honorable, and our labors will be felt and appreciated if we are honest and faithful to duty, and united in action. Let us act together as a unit in the noble cause in which we are enlisted for life. Let us devise, mature, and carry into operation such plans as will give efficacy and success to our school system. Let us cling to the Association as our first love, advising one another, helping one another, and so consecrating our whole energies to our noble calling, that when we shall be laid,

"Each in his narrow cell,
Where heaves the turf of many a mouldering heap,"

This, the noblest of epitaphs, shall be engraven on our tombstones: Here lies the faithful, devoted teacher.

Even the best trained minds are not exempt from a slight confusion of ideas at times, and it is not strange if something of the kind occurs sometimes among our pupils.

We were amused by an answer given in one of our schools, not long since, to the question, "Why the Pilgrims left England?" — "Because they did not like the government of Plymouth Church."

This reminds us of the man who was searching in Chillon, for the place where "Old Byron was chained." Upon being told that Byron was not chained there, he replied with some feeling, "Vy yes, he vas, he and his two broders; and when dey died he proke the chain, and dey caught him, and put him on de island of St. Helena, and kept him tirteen year, because he vould not bow to Gesler's cap."

DEVELOPMENT OF LANGUAGE.

[The following excellent paper on the Development of Language, was read before the South Boston Lady Teachers' Association, by Miss Mary Powell.]

THE importance of systematic study of language in our schools has seldom been carefully considered. There are, indeed, disputes enough as to how grammar shall be taught; but grammar is not language — it is merely a set of rules by which we gauge the correctness of our speech; the point which I maintain has been neglected, is the *systematic development* of language from earliest childhood.

Merchants have demanded that there shall be more practical methods of teaching arithmetic, and teachers have endeavored to meet the demand. Too much time was consumed in teaching elementary reading, and Dr. Leigh thought out his Phonic Method. Some one felt the need of the refining influence of music, and, accordingly, the steps in music have been made easy for little feet; and art is being pushed forward a little faster than we can bear, perhaps. The need of a system for developing language will be felt when its importance is realized, and it is to be hoped that the time is not far off when language will occupy a place *not* second to anything taught in our schools.

Language is the expression of thought; and the connection between thought and language is so close, that poverty in language is a sure indication of poverty of thought, and is an "inseparable barrier to thought either in its discovery, reception, communication, or retention. All education must be communicated through language; and the larger the child's vocabulary, the more intelligent will be his grasp of all knowledge which can be reduced to statements." Hence the importance of proper training in this direction.

All theories about the origin of language concede that the *thought element* preceded the *sound element.* Primitive man must have had the idea in his mind before he tried to express it. No matter whether it was his senses, his necessities, or divine inspiration that put it there, it must have existed. Here we have the key-note for all our teaching of language; supply material for thought, then demand its expression. This is Nature's own method; but we need not go back to the infancy of mankind for a method; we can find a similar one by watching the infants of to-day. A simple example will illustrate this. Few objects are of more interest to a young child than a kitten; how intently he will watch its gambols, and what desperate efforts he will make to get hold of it! then the mother, through the child's interest, will teach him the kitten's name; over and over she will repeat it, always in *connection with* the *object*, and what a proud moment it is for her when baby can call the kitty for himself! Thus instinct has taught the mother the *true* way to develop language. When the child enters school, let the teacher continue the work which Nature has commenced so well. How? Begin with conversational lessons, the children to be the principal speakers, "the teacher guiding,

questioning, confirming, and elaborating what is given." In this connection, oral lessons on the parts, qualities, and uses of objects, and in higher grades, on the sciences, are *invaluable*, because they supply *direct objects* of thought. They also help to increase the stock of words by being the occasion of using new terms, which of course the teacher will give. For instance, take the parts of a plant and its uses; such sentences as these will result from the observations of the class. "The leaves are the lungs of the plant." "The roots absorb food for the plant." "The parts of a flower are the calix, sepals, petals, stamens, and pistils." In these three sentences alone, there are at least half a dozen words that would be new to a class.

Towards the close of the Primary School course, might be commenced what is really sentence-building. It may be done in this way: Ask the children to name things they wish to talk about. If the children have been in the habit of conversing freely with the teacher, any number of objects will be mentioned. Out of these let her select six that she wants, and write them on the blackboard; then call upon the class to tell something about each object, and finally the lesson stands upon the board like this: dogs bark, horses run, birds fly, etc. The next time proceed in the same way, and get such sentences as, snow is white, the slate is hard; and, again, such sentences as, the bird has wings, the dog has ears. The result of these lessons would be that the class would give readily things to talk about, what they do, what they are, and what they have; these three kinds of sentences denoting action, being, and possession, and are the foundation of all others. Then these kinds of sentences might be compounded thus. The slate is smooth, hard, and black. The bird has wings and feet. The cat mews, purrs, and scratches.

When the children enter the Grammar School they will be able to take up intelligently adjectives, telling number, form, color, size, or any other attribute; adverbs telling how, when, or where an action is performed; the ideas contained in prepositions as above, around, below. Show that the office of participles is to shorten sentences; let the need of pronouns be *felt* by showing the awkwardness of language without them. Keep in mind that up to this point you have not been teaching grammar, — you have not even named one of the parts of speech *as such*. Your aim has been *solely* to build sentences.

When a sufficient amount of skill in doing this has been acquired, you may give the terms subject and predicate and any other you may wish. Such a course as this would be a powerful aid to composition; for if the ideas are in a mind that has the ability to put them into language, the act of putting them on paper is very simple. It would also be a help in the reading lesson by establishing a habit of inquiring into the meaning of words, and more intelligence would be brought to bear on it.

Among all the savage nations we read of, the Peruvians stand pre-eminent for the kindness with which they treated provinces which they vanquished; but in one thing they were tyrannical, and that was, that the conquered should abandon their native tongue and adopt that of Peru.

The historians' comment is, "the Peruvians had the wisdom to perceive that the bond of a common language is one of the strongest that can unite a people." Now foreign elements are being daily added to our population.

To the public school belongs the task of Americanizing these elements both in thought and language.

How can this be done, unless we make a specialty of language, and not leave it as it is now, for a teacher to take up or not as she pleases? Doubtless some will say there are specialties enough in the school without adding another. It is true there *are* difficulties in the way; and the greatest, perhaps, are those growing out of great numbers and pressure of work.

The result of such a course as is here hinted at would be, that the graduates of our grammar schools would not feel as I have known numbers of them to feel, that they have learned a set of rules to regulate what they have not, viz. language. On the contrary, they will possess minds trained to find food for thought in the commonest objects, and power to express those thoughts with ease and elegance.

In conclusion I will quote a few sentences that deserve to be called maxims.

"Create necessities for new words, then give them."

"Sift out errors one by one."

"When it is possible, get full statements."

"Encourage a child to let his speech wear its best clothes."

Last and best of all, "Supply materials for thought, then encourage expression."

JOHN AMOS COMENIUS.

[We copy the following brief sketch of the life of John Amos Comenius, with a general statement of his principles as an educator, from Hailman's History of Pedagogy, published by Wilson, Hinkle & Co., Cincinnati. It would be difficult to point to a single principle held by the most advanced educators of our day, which does not seem to have suggested itself to his mind.]

JOHN AMOS COMENIUS was born in the year 1592, at Comnia, in Moravia. His early history is obscure; it is known, however, that he attended the university of Herborn, at Nassau, where he studied theology. In 1614, he returned to his native land and became rector of a school, and, in 1618, pastor of a parish of Bohemian Brothers. In 1624, Ferdinand II banished all evangelical preachers from his realms, and Comenius took refuge at Lissa, in Poland, where he became, in 1628, member of the faculty of the academy. Here he completed his first didactic works of importance, among which the "Key to the Study of Languages" founded his reputation. It appeared in 1631, and was received with such immense applause that in a short time it was translated into twelve European and several Asiatic languages. In 1641, he accepted a call of the English Parliament to visit England, and to reform the English schools according to his principles; but civil war neutralized his efforts, and he yielded to a similar call from Sweden, in 1642, where he was more successful. Soon afterward he returned to Lissa, where he was made a bishop of his church in 1648. In 1650, he accepted the call of a Hungarian prince, to assist in the reorganization of schools, but returned to Lissa four

years later. In 1652, the Poles burned Lissa and scattered the Bohemian Brothers forever. His subsequent wanderings brought him to Amsterdam, where he was cordially received. He died at Naarden, a neighboring town, in 1671. During his stay in Hungary he had composed a remarkable school-book, entitled the "*Orbis Pictus*," which I shall have occasion to mention again hereafter.

Comenius was by no means one of those pedagogues who take up one or another single subject of instruction, or who place all good in a certain method of teaching. He was, in the very best sense of the word, universal; and notwithstanding this universality, he always strove after the most thorough foundation. The aim of education he finds in wisdom, in knowledge, virtue, and piety. He contended that all men need instruction; that all children, rich and poor, high and low, boys and girls, should be taught in school. "Not," he adds, "that each should learn every science; but all should be so instructed that they may understand the basis, relation, and purpose of all the most important things, having reference to what they are and are to become." He complained that the educational systems of his time did not accomplish this. In many places there were no schools at all, and in others only the children of the wealthy were cared for. At the same time, he condemns the methods of instruction as repulsive, tedious, and misty; and deplores the neglect of moral training, the absence of science in the curriculum, and the undue preponderance of Latin.

He proposed a system of educational institutions, consisting of four divisions: the maternal school, the vernacular school, the Latin school, and the academy.

The maternal school comprises domestic education under the mother's direction, and lasts during the first six years of the child's life. Its main care is the sound mind in the sound body. The mother must attend with intelligent solicitude to the physical welfare of her child; she must nurse it herself; guard it from all stimulants and quackery; offer it opportunities for cheerful play, for manifold observations, accompanied with simple instructions; and implant the seeds of virtue and piety.

He shows ingeniously how, already during the first six years of life, the child can and should obtain in the parental home the elements of all later knowledge. He shows how from the cradle it gradually extends the scope of its perceptions to the sitting-room, the other rooms of the house, the yard, the streets, the gardens and fields, to sun, moon, and stars; how it becomes familiar with its limbs and their uses, with animals, plants, stones, and their names; how it learns to distinguish light from darkness, day from night, colors, shapes, numbers, and sounds; how it gains ideas of longer and shorter periods of time, of the development of organic life, of human institutions; how it becomes skilled in song, language, and gestures. In short, Comenius sketches an elementary course of object lessons, of exercises in intuition, in thinking and speaking, and shows that it contains the principles of all subsequent instruction in geography, natural science, geometry, arithmetic, music, anguage, etc. At the same time, parents should, particularly by example,

develop correct moral feelings, and lead their children to moderation, cleanliness, obedience, and modesty.

When the child is ready for the vernacular school, the latter should present itself in a friendly, not in a repulsive light. The vernacular school, similar to our district school, furnishes instruction to the child from the sixth to the twelfth year. Comenius asks that it should teach only the vernacular language (hence its name), and that it should lay great stress upon practical education. Reading, writing, orthography, arithmetic, measuring, song, religion, the elements of history, natural science, geography and astronomy, popular instruction about trades and arts, should constitute the curriculum of exercise and study. Thus, he would make the vernacular school an institution that prepares for life as well as for the higher institutions of learning.

With reference to the latter, I would merely state that Comenius lays down for them, among others, these principles: without knowledge, rational thought, speech, and action are impossible, hence the sciences must be nurtured; avoid words without ideas; let the concrete always precede the abstract. To deal more largely with these higher institutions does not lie within our limits, and I return to his views on elementary instruction.

School, he says, is a workshop of humanity; it is to bring man to the ready and proper use of his reason, his language, and his artistic skill — to wisdom, eloquence, and prudence. Hence, its material of instruction must be valuable and comprehensible for all the children of the people, and must tend to their universal cultivation. Whatever bears no fruit in life nor enhances humanity, whatever tends to empty words and shallow mechanical drilling, is not for the school. The material of instruction must be selected with care, and treated in accordance with natural methods that agree with the normal development of children and take into consideration their manifold individual peculiarities. First, the senses are to be set to work; then, memory; and, at last, understanding and judgment. The pupil must not learn by heart what has not become his from perception or reflection; he must not speak about what he does not understand. The thing must precede the word; the example must come before the rule. In all branches, the easy and the simple thing must come before the difficult and the complex. Nor should the child receive much or many things at once, but progress gradually and continuously.

Thus, the clear mind of Comenius was already fully aware of the methodical laws which require that all instruction should be based on intuition, should be gradual, thorough, and continuous; but it was no less evident to him that all instruction must arouse and enhance the self-activity of the learner. The child, he claims, must use its senses as perceptive powers; must observe surrounding objects; compare its perceptions; form concepts, judgments, conclusions from its ideas; learn to express its thoughts clearly and fluently; and fix its knowledge, as well as improve its skill, by varied practice. In short, all the powers of the pupil must be kept in activity. Knowledge must not be given to the pupil as something finished, as something ready-made or cut-and-dried, but it must be found from its elements; or, as

Comenius expresses himself, "the teacher must not sow plants instead of seeds."

Wheresoever circumstances permit it, Comenius would lead the pupils to obtain their fundamental ideas, at least, from the direct observation of objects, or, in the absence of these, from the pictures of objects. In order to supply such pictures, and in order to fix and arrange the ideas gained by the child, he composed a book, "The *Orbis Pictus*, the Visible World; that is, the Pictures and Names of all the Principal Things in the World, and of all the Principal Occupations of Man." In spite of its many faults in technical execution and arrangement, this remarkable book exerted a wonderful influence upon the schools, and did much to diffuse more rational views upon education.

While Comenius thus gave clear directions concerning methods of instruction, he never lost sight of the disciplinary and pedagogic side of the school. He insists repeatedly that the school is not only to impart knowledge and skill, but that it must, at the same time, diffuse virtue and piety, and develop as well as strengthen perseverance, punctuality, orderliness, justice, etc. He asks for airy and light school-rooms, and considers playgrounds essential to a well-regulated school. At the same time, he deems frequent walks with the classes absolutely necessary, to render the children familiar with nature and human occupations. In short, Comenius aims not at intellectual culture alone, but at a harmonious development of the entire human being. He is a pedagogue in the fullest sense of the word.

SCIENTIFIC AND INDUSTRIAL EDUCATION.

[*From an address of Pres. White, of Cornell University, upon Scientific and Industrial Education, and the true policy of the National and State Governments in regard to it.*]

I MAINTAIN that, of all utterly undemocratic things and of all unrepublican things, that system is the most undemocratic, the most unrepublican, which allows a dead testator to put his hands forth from his grave and keep them clutched about your systems of instruction. All over the country you see colleges held down from the fact that some man in his will, fifty or a hundred years ago, attached certain conditions to his bequest which are now outgrown. I maintain that it is utterly unworthy of a republic to allow such control over its institutions by men in their graves. The true way, the manly way, is for the people of the United States to provide for the education of the people of the United States. It is far better to go at this work in such a manly way, than to rely upon what can be wheedled out of individuals and then allow them from their graves to control the system.

Again, I maintain that you cannot have a healthy public-school system without a system that includes the idea of a continued and gradual progress to this advanced education. I hold that the nation ought to provide for a system of education tha should include all instruction, — primary, secondary,

industrial and scientific, and general. I am aware that some objections are made to this. One objection comes from the *laissez-faire* school, who say, "Let things alone; all will be well enough." I do not discover that; I discover that, if things are to go on well in a generation, they must be taken care of by the common-sense of that generation. Still, I am a believer in the *laissez-faire* school within its legitimate limits. But what are those limits? For anything which touches the cupidity of men, their pride, their desire to build up fortunes for themselves and their children, you may rely safely upon individual effort. But where great public interests are involved; where the security of the country is involved; where there are considerations which individuals do not so strongly feel, embracing interests that stretch far beyond the life of any individual, you have no right to rely wholly upon individual aid; you must rely upon national and State aid.

Then, too, there is an economical objection. It is said that such a system costs too much. Does it? I believe it will be seen that *the want of it* is what costs too much. It is the want of instruction in these technical departments which costs. But for the fact of Mr. Clarence King's report upon the great diamond bed swindle, that one operation would have involved the loss of more money than the entire endowment of all the national institutions for general and industrial education.

But that is not all. You talk of economy. If you will go into any of our State legislatures you will see a most curious system of ethics in regard to dealing with public institutions. If asked for money to found an asylum for idiots and lunatics, or the blind or deaf and dumb, you will find our legislatures ready to build palaces for them, and to grant every provision for giving them the best lodgings, the best fare, the best ventilation, and all the conveniences of modern civilization. Millions of dollars are lavished upon your idiots, and deaf and dumb, and blind; and glad am I that it is done; but when you come to ask aid for the development of the young men on whom our civilization is to rest, for the proper care of the young men who are to make or mar the future of the country, there is nothing to be had for them. The future makers of your institutions and laws are left to poor diet, to live in the most wretched buildings. I do not know a college that has good ventilation; this is reserved for your idiots and others of a similar class. I maintain that the system is wrong. "These things ought ye to have done, and not to have left the others undone." Depend upon it, it is a great mistake in our civilization.

Then comes the argument of the demagogue, that advanced education is for the rich and not for the poor. Shallow as the argument is, it is worth looking at. Your rich man can send his son anywhere, — to Europe if he will. If there is any class upon whose prosperity this system tells, it is that great, wide-spread, hard-working poor class; that great majority of poor men, whose sons are to do the work of future generations.

One objection more. Whenever a comparison is made with foreign institutions, it is said that foreign institutions are old and ours are new. That is

a wretched mistake. The great majority of the leading scientific and industrial schools of France and Germany are of recent creation. They are more recent than almost any of our great colleges and universities. Those great schools at Berlin, Carlsruhe, and Dresden, and those in France for the most part, are comparatively new schools.

And, finally, it is said there is something dangerous about scientific education. Can this be so? Is it true that dealing with the revelation of God in nature is calculated to do harm to any man?

Among the many striking passages in Herbert Spencer's Treatise on Education is one of special interest on this point. He asks, What would any author think, were a person to come into his presence, praise his works, and dwell upon their beauty and perfection, when the author knew that this flatterer had never read a single page or even a single line of them? And what, then, must the great Author of all things think of those who come into his presence, extol his works in all moods and tenses, the great Author knowing that this flatterer has never studied out a line in the great book of nature; nay, that he has discouraged others from studying it?

But an objection of another sort is raised. It is said, why give instruction in classical branches at all? I answer, for three reasons: First, because the act of Congress does not allow us to exclude them; secondly, because to those who wish them they are an excellent means of culture; thirdly, because we wish to avoid that old mistake of separating industrial and scientific students from classical students. Heretofore students in science and technology have been banished to some little special college in some remote corner of a town or State, while classical students have had all the prestige arising from connection with large and thoroughly-equipped institutions. We stand upon the principle of considering one student the equal of another — the student in science and industry the equal of the student in classics. We stand against any separation which shall serve to perpetuate that old subordination of men in the new education to men in the old.

But it is objected that the new system does not provide for mental discipline. Never was charge more absurd. Discipline comes by studies that take hold of a man and of which he takes hold. Is it not evident that the new system, which adapts studies to the tastes and aims of men, is more sure to take hold and be taken hold of than the old system, which grinds all alike through the same processes and studies?

And, finally, it is objected to the "new education" that it is "godless." There is nothing new in this charge. It has been made against every great step in the progress of science or education. And yet it has certainly been found that, although ideas of religion are changed from age to age, the change has tended constantly to make these religious ideas purer and nobler. The majority of the fathers of the Papal Church held the new idea of the rotundity of the earth to be incompatible with salvation. Martin Luther thought Copernicus a blasphemer for his new idea that the earth revolves about the sun, and not the sun about the earth. Dean Cockburn declared the new science of geology a study invented by the devil, and unlawful for Christians.

When John Reuchlin and his compeers urged the substitution of studies in the classics for studies in the mediæval scholastic philosophy, their books were burned, and they themselves narrowly escaped the same fate.

No, my friends, every study which tends to improve the industry of mankind makes men nobler and better. Every study which gives man to know more of the history of his race gives him to see more and more clearly the finger of Providence in history; every study which brings his mind into contact with the thoughts of inspired men as exhibited in our literatures builds up his manliness and his godliness; and every study which brings him into close contact with nature, in any of its fields, not less surely lifts him "through nature, up to Nature's God."

NEW ENGLAND EDUCATIONAL INSTITUTIONS. — The Commissioner of Education, in reviewing the statistics of higher education in his forthcoming report, says of New England educational institutions: —

In the six New England States, the city high schools are preparing 664 students, the academies are preparing 985 students, and the special preparatory schools and preparatory departments 2,586 students, while the colleges themselves are preparing only 40.

In other words, the academies of New England are preparing 3,571, or more than 83 in 100 of students being fitted for superior classical instruction. The case is very different in other portions of the Union. For example, in the States of Ohio, Indiana, Illinois, Michigan, and Wisconsin, the city high schools are preparing 1,213 students, the ordinary academies 791, other preparatory schools 731, and the preparatory departments of the colleges 9,472; that is to say, 12½ per cent of this work is done by the academies and preparatory schools, and 77½ per cent by the colleges themselves; only about 10 per cent are preparing in the city high schools. It thus appears that out of every 100 students preparing for college in New England, the colleges of New England are only burdened with the care of 1, while 83 out of every 100 students preparing in the Northwestern States mentioned must be drilled by the colleges.

It is obvious that until institutions of secondary instruction are able to supply a sufficient number of prepared students to the colleges, or until the city high schools regularly give opportunity for acquiring the rudiments of classical training, American colleges in the West and South must directly or indirectly prepare at least 75 per cent of their students. Of course there are exceptional cases in which this necessity does not exist; but this burden on secondary instruction borne by institutions chartered as colleges, though unavoidable under existing circumstances, is nevertheless a very grievous one. Such a condition of affairs tends to a low standard of scholarship in the colleges, impairs the energies of the teachers, and fails to arouse and foster a love of high and thorough culture among students.

Of the 949 students in New England reported as preparing for scientific colleges, 165 were in city high schools, 768 in academies and special preparatory schools, and 16 in preparatory departments of colleges; while in the Northwestern States before mentioned, of the 1,278 students thus preparing, 489 were in city high schools, 497 in academies and special preparatory schools, and 292 in preparatory departments of colleges.

[The following remarks by Mrs. Martin, on "Reading" in our schools, were omitted in our report of her lecture, at Detroit. The suggestions contained in them are certainly such as to render them worthy the attention of teachers.]

As to Reading, shall I startle you if I say that, take it for all in all, our pursuit of Reading, *as an art*, has been a failure?

The blindest defender of the existing state of things will not maintain that it is possible to teach rhetorical reading to children under fifteen; and if you believe that we succeed in the humbler branches of the art, let me ask as a test, How many boys and girls of fifteen and under, do we each know, who could read at sight, intelligently and agreeably, for an hour, one of Scott's novels, or the last "Atlantic," or the leading editorial in the morning paper? Or, to put the question in another form, have you ever had occasion, as I have had more than once, to seek for a reader for an invalid or a blind person? If you have, you will, I am sure, admit what I have said, — that for the great mass of our school-children (and you may even include the High Schools), the teaching of reading, as an art, is a failure. The true test is not the ability to read a set piece with rhetorical effect, but the power to read at sight and continuously, without effort, prose or verse within the capacity of the reader's understanding. We are not likely to mend our ways in this respect until the reading can be made the means of mental development, — not a parrot-like imitation of any teacher, however skilled in elocution.

What the children read now, you know as well as I, — too often the weak dilutions which pass under the name of "children's literature," while the best of the "reading books" is but a scrap-book. The scraps may be of purple and fine linen, of scarlet and cloth-of-gold, but they are scraps still. Can we wonder that the child, to whom we have shown only shreds and patches, has no conception of the royal robes that genius wears?

INTELLIGENCE.

BOSTON. — The Dudley School-House, in the Highland District, was dedicated Oct. 28, by appropriate and interesting exercises. This beautiful and commodious building combines all the excellences of the most approved modern school edifices, and we know of no school-house in the State where ventilation is so well provided for. The following description will give some idea of the extent and accommodations of the building. Such school buildings are at once an evidence of material prosperity, and of a wise and just appreciation of the value of popular education.

The plans for the building were prepared by Mr. Louis Weissbein, and the edifice has been placed upon a lot of 27,000 feet, and is two stories in height, with a basement and French roof. The exterior walls are of face brick with light stone trimmings. There are three spacious entrances to the house, with three flights of stairs to each story to correspond. The ground dimensions are 94 by 140 feet in the extreme. The basement is only partly below ground, as the top of the first floor is 4½ feet above the level of the lot. The basement, 9½ feet high, is finished, and contains a dry and comfortable play room, engine and fuel rooms, and water closets; these latter are constructed after the most improved patterns for comfort and convenience. Through the length of the stories above runs a hall 16 feet wide, with 12 feet wide staircases at each end.

There are three school-rooms, 28 x 32 feet on each side of the halls, of the first and second stories. In the French roof are two more school-rooms, and a fine exhibition room capable of seating nearly 800 persons. The school-rooms are 13½ feet high, and the exhibition hall 16½ feet. The building has been excellently arranged for light and ventilation, and contains all the latest and best improvements, such as steam, electric bells, etc., and has cost in the neighborhood of $110,000. The style of architecture is modernized gothic; and the house, with its tower for a fine alarm bell, presents an imposing and handsome appearance. All the exterior ornamental work above the brick cornice is of galvanized iron, and the building is thoroughly fire-proof above the boilers. The ventilation has been admirably arranged, and gives a pure current of air at all times in the different apartments. The halls are lighted on three sides, and there are two sky-lights.

The various rooms are embellished with pictures which have been presented to the school by its friends. These include portraits of ex-Mayor Gaston, the late Joseph Dudley, George Washington, Abraham Lincoln, Sumner, Webster, Mayor Cobb, ex-Mayors Otis and Lewis, and other photographs presented by Whipple and Black.

WE commend the following to the attention of manufacturers in all our cities and towns, and hope they will follow the example of Messrs. Blake & Co. in their several localities.

"The Free Evening Drawing Schools, supported by the city, will open for the winter on the first Monday in November. These schools are largely attended by mechanics, to whom practice in object drawing is a matter of the utmost importance. In Europe such schools are fitted up with models of all kinds, suited to the needs of machinists, wood carvers, and persons studying all sorts of trades, who, by their aid, learn to draw details of construction intelligently.

Such knowledge is much more readily acquired, and of a vastly more practical character than that obtained by drawing from flat copies, which, though excellent in their way, leave the mechanic uncertain upon many points which he must

know before he can make good working drawings, or proceed to invent machines and originate designs. It is because this fact is not fully recognized in this country that our Industrial Schools are inadequately supplied with models, without which they cannot afford such advantageous instruction to those who frequent them as is to be desired, or so fully accomplish the objects aimed at by the city in freely opening them to all comers, as could be wished. As the heads of great manufacturing establishments have a direct interest in the thorough education of mechanics and artisans, in proportion to whose skill the quality of all manufactures will be raised in Massachusetts, and the profits arising from them be proportionally increased, the Drawing Committee ask them to aid in supplying the schools with what they so much require by contributing such objects as valves, mouldings, wood carvings, screws, bolts, casts, pieces of pottery, patterns of wall papers and carpets, and various details of machinery. Messrs. George F. Blake & Co. have headed the list of contributors, and it is confidently hoped that their liberal example will be followed by other important firms."

CAMBRIDGE. Mr. Francis Cogswell, late master of the Putnam Grammar School, East Cambridge, has been appointed superintendent, and has already entered upon his duties.

This is a well-merited compliment to an excellent teacher, and one who possesses the requisites in a high degree for a successful superintendent.

The appointment gives great satisfaction to his fellow-teachers, and to the community at large, in which Mr. C. is held in high esteem as a teacher and man. The following item, which we clip from the "Journal," bears witness to the justice of our remarks: —

"*Reunion of the Putnam Grammar School.* Harugari Hall, East Cambridge, was the theatre of as pleasant a gathering last night as is often chronicled. Shortly after the election of Mr. Francis Cogswell, late head-master of the Putnam Grammar School, to the position of Superintendent of Schools, a number of his pupils, past and present, conceived the idea of a reunion of all his old scholars with those now in the school, which should be in a measure complimentary to himself. Last night the design was carried out, a large number of the pupils of the school gathering at Harugari Hall. A "Song of Greeting," written by Maurice D. Clark, one of them, opened the exercises. Babson S. Ladd, of '62, delivered the preliminary address, and Miss S. M. Burnham read a brief history of the school for the past twenty years.

"Miss Emma Vogl then presented to Mr. Cogswell, in behalf of the pupils, old and new, a beautiful gold watch, chain, and seal. Mr. Cogswell responded briefly, accepting the gift. He was followed by Mr. William Savage, who presented also, on behalf of the pupils, a valuable box of geologic specimens, with a large microscope, to Miss S. M. Burnham, one of the oldest and most popular teachers of the school. Brief speeches were made by Dr. Taylor, E. B. Hale, Rev. H. K. Pevear and others. A letter from Chas. J. McIntire was read, giving a record of the connection of the graduates of the school with the army, after which supper was served in the upper hall, and the remainder of the evening passed in a social way. The music for the evening was under the direction of George H. Monroe and N. Lincoln."

We are glad to see that the vacancy caused by the promotion of Mr. Cogswell to the Superintendency, has been filled by the appointment of Mr. J. S. Barrell, as master of the Putnam School.

From an acquaintance of some years with Mr. Barrell, and the testimony of those who have had the best means of judging of his merits as a teacher, we are confident the school under his instruction will maintain the high character it has attained under Mr Cogswell.

Books.

THE POEMS OF VIRGIL, Vol. I. Containing the Pastoral Poems, and Six Books of the Æneid. Ginn Brothers, Boston, 1874.

Messrs. Allen & Greenough have already done such excellent service to the cause of classical scholarship in their admirable editions of Cicero's Orations and De Senectute and Sallust's Catiline, as well as in their Latin Grammar, that we are almost ready to say, without investigation, of anything that comes from their hands, it is the very best of its kind. On examining this edition of Virgil, we find that it possesses the same general excellences that we have before noticed in the works above referred to. The notes are clear and concise, in a remarkable degree free from all long-winded explanations, useless details, and stilted translations. We hardly know where else to find so much and so useful matter in so little space. The average school-boy will be glad to use all these notes, and teachers may be assured that he will be only benefited by so doing.

The second volume will contain the rest of the Æneid, with the Georgics and the Minor Poems.

THE THIRTY YEARS' WAR, 1618 to 1648. By Samuel Rawson Gardner. Published by Scribner, Armstrong & Co.

This is another volume of "Epochs in History," two of which we noticed in our last.

The first chapter on the Political Institutions of Germany, and the causes of the Thirty Years' War, we have read with much interest. It is the best statement we have seen of that nation, with "no really national institutions," and whose emperor and Diet were merely the semblance of an English king and Parliament. Its geography has puzzled the brains of school-boys beyond measure, and its history has lacked the unity necessary to give it vital interest.

The author has sought unity "in the growth of the principle of religious toleration as it is adopted or repelled by the institutions under which Germany and France, the two principal nations concerned, are living"; and we confess that we have been greatly aided by keeping this principle constantly in view. The style of the narrative is clear and interesting, and the author writes with a fulness of knowledge which takes from it all appearance of being the work of a historian skilful only in the use of "paste and scissors."

THE BUILDING OF A BRAIN. By Edward H. Clarke. Published by James R. Osgood & Co.

This sequel to Dr. Clarke's "Sex in Education," which elicited so much discussion on the question of the co-education of the sexes, is the substance of a lecture before the National Educational Association, at Detroit. The book, however, contains more than was read there, "exhibiting facts and statements derived from various sources, which are intimately connected with the subject of the address," and which the doctor uses "to indicate and illustrate the error in our American system of female education."

This book, like the first, will undoubtedly have an extensive circulation. Certainly those who listened to the doctor's admirable address will not be satisfied without a copy of what they heard, with the additions here made. It is a model of style, — direct, clear, and terse. The

doctor seems entirely undisturbed by the attacks on his previous work, calm in assurance that the physiological grounds on which he based his opinions are correct, and finding additional proof of the correctness of his views, in the experience of eminent medical practitioners and distinguished educators.

SHAW'S NEW HISTORY OF ENGLISH LITERATURE. Prepared on the basis of Shaw's Manual. By Truman J. Backus. Published by Sheldon & Co.

We acknowledge our great indebtedness to "Shaw's Outlines of English Literature," as one of the first and best manuals we ever had occasion to use. The work, as rewritten by Dr. Smith, and thoroughly tested, has now been thoroughly revised by Professor Backus. What was before an excellent book, has thus been greatly improved, and made more attractive; and while we have a "fuller discussion of Old English and Middle English Literatures," and "references to the best collateral reading upon the topics considered," the essays upon representative authors, as Chaucer, Spencer, Shakespeare, etc., are printed in "a conspicuous manner," indicating their rank, and calling special attention to them as the representatives of different periods, and different departments of literature.

The "Sketch of American Literature," by Tuckerman, is retained, as revised by him in 1870; — the professor "being unwilling to tamper with an essay, so elegant in its style, and so discriminating in its thought."

WORD PRIMER. A Beginner's Book in Oral and Written Spelling. By Wm. Swinton. Published by Ivison, Blakeman, Taylor & Co.

The author calls attention to the fact that the lessons are "exceedingly short." This is certainly a good point. To give children twenty or thirty words at one time, and expect them to remember any of them distinctly, is unreasonable. "The grouping of the words according to leading ideas," and selecting "common words," are also means of interesting pupils. By spelling words only which convey some idea, the exercise is relieved of the mechanical drudgery of arranging a half-dozen or more letters in an arbitrary form, which, so far as the pupil is concerned, is utterly meaningless.

We think spelling should be learned by instalments, — new words being learned as the pupil begins to use them. We don't like putting words *spelled* wrong before the eye of the pupil, as on pages 83d and 90th; nor incorrect expressions in a "language lesson." We prefer that pupils should never *see* an example of bad grammar, and wish that some means might be invented by which they would never *hear* one.

SLATE EXERCISES IN NUMBERS. For Primary Schools. With Suggestions for Oral Recitations. By A. M. Rice. Published by H. Reede, Springfield, and Nichols & Hall, Boston.

This little book is intended for use with the youngest pupils in our primary schools. It is the method of a teacher who has had unusual success in securing "accuracy and rapidity," in the simple operations upon numbers. As the work of an earnest and successful teacher, it is worthy of examination and trial.

MODEL FIRST READER. Sentence Method. By J. Russell Webb. Published by George Sherwood & Co., Chicago.

Among all the First Readers we have seen, we know of none more attractive than this. The illustrations are beautiful, and its arrangement is more in accordance with our idea of the method of teaching reading than any we have seen. We would combine the "word method," the "phrase method," and the "sentence method."

This is done, to some extent, in this book, but we would go a little further. We would never require the pupil to pronounce the indefinite "a" or the

definite "the," except in connection with the word to which it stands in the relation of an unaccented syllable; and we would never allow a pupil to read a sentence until he can take in, with his eye, and utter at once, the several phrases of which it is composed. We are not certain that it would not be well in a First Reader, to space the phrases, so that the child might get the *habit* of reading by phrases at first. This book certainly is an effort in the right direction, and we heartily recommend it to teachers.

MONROE'S FIRST STEPS IN SPELLING. By Lewis B. Monroe. Published by Cowperthwait & Co.

This book is beautifully illustrated, and contains words so classified as to furnish an introduction to orthoëpy as well as orthography. No *rules* are given, but the words are so arranged as to *suggest* rules both in spelling and pronunciation. The same may be said with reference to the formation of certain plurals, and the past tense and present participle of verbs. It will be a favorite with good primary teachers.

BOOKS RECEIVED.

FAST FRIENDS. By J. T. Trowbridge. With illustrations. Published by Jas. R. Osgood & Co.

HAZEL BLOSSOMS. By John Greenleaf Whittier. Published by James R. Osgood & Co.

SCIENCE PRIMERS. Physiology. By M. Foster. With illustrations. Published by D. Appleton & Co.

A SCHOOL HISTORY OF GERMANY; FROM THE EARLIEST PERIOD TO THE ESTABLISHMENT OF THE GERMAN EMPIRE. With one hundred and twelve illustrations, and six historical maps. By Bayard Taylor. Published by D. Appleton & Co.

MANUAL OF ARITHMETIC. By Wm. G. Peck. Published by A. S. Barnes & Co.

MANUAL OF MYTHOLOGY. Greek and Roman, Norse and Old German, Hindoo and Egyptian Mythology. By Alexander S. Murray. Second edition. Rewritten and enlarged, with forty-five plates. Published by Scribner, Armstrong & Co.

SACRED DRAMAS. By Rev. James Boxer. Naaman the Syrian. The Finding of Moses. Jephthah's Daughter. Published by Lee & Shepard.

ELEMENTARY LESSONS IN HISTORICAL ENGLISH GRAMMAR. Containing Accidence and Word Formation. By Rev. Richard Morris. Published by Macmillan & Co., London. Lee & Shepard.

SUNNY SHORES; OR, YOUNG AMERICA IN ITALY AND AUSTRIA. A Story of Travel and Adventure. By Wm. T. Adams (Oliver Optic). Published by Lee & Shepard.

LECTURE NOTES OF QUALITATIVE ANALYSIS. By Henry B. Hill. Published by G. P. Putnam's Sons.

THE ACT OF READING MUSIC. For the use of Public Schools, and private pupils. By Mrs. Laura B. Humphreys. Published by J. W. Schermerhorn.

A LECTURE ON THE PROTESTANT FAITH. By Dwight H. Osgood, N. Y.

INTRODUCTION TO ALGEBRA. By Edward Olney. Published by Sheldon & Co.

THE AMERICAN EDUCATIONAL MANUAL. A Cyclopedia or Reference Book for all Matters Pertaining to Education. Vol. I. Published annually, by J. W. Schermerhorn & Co.

ELEMENTARY GEOGRAPHY. Taught by means of Pictures, Maps, Charts, Diagrams, Map Drawing, and Blackboard exercises. By James Monteith. Published by A. S. Barnes & Co.